

PATENT COOPERATION TREATY

PCT


INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 11 NOV 2005

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Applicant's or agent's file reference 16598-1PCT		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/CA2004/001045		International filing date (day/month/year) 15.07.2004	Priority date (day/month/year) 18.07.2003	
International Patent Classification (IPC) or national classification and IPC C02F1/32, C02F1/72				
Applicant GROUPE TRAIMTECH INC. et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 18.05.2005		Date of completion of this report 10.11.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Glod, G Telephone No. +49 89 2399-		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/CA2004/001045

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-7 as originally filed

Claims, Numbers

1-10 as originally filed

Drawings, Sheets

1-3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/CA2004/001045

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	8-10
	No: Claims	1-7
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: US-A-5 043 080

D2: US-A-5 573 676

D3: US-A-5 587 069

D4: US-A-6 083 398

2. The subject-matter of claims 1-7 does not fulfill the requirements of Article 33(2) PCT (Novelty).

2a. D1 discloses a method for treating water comprising hydrocarbons such as BTX with a $\text{UV}/\text{H}_2\text{O}_2/\text{Fe}^{2+}$ treatment system (example 3). The water is circulated between the feed solution tank and the UV reactor (column 5, lines 66-column 6, line 8). D1 is prejudicial to the novelty of the subject-matter of claims 1, 3, 4 and 6 of the present application.

2b. D2 discloses a method for treating waste waters containing metal contaminants whereby in a first stage the water is treated with a combination of hydrogen peroxide and UV-light irradiation (claim 1). The UV-light has a wavelength of 185-400 nm (claim 4). Example 3 describes the treatment of water comprising mineral oil. D2 anticipates the novelty of the subject-matter of claims 1-5 of the present application.

2c. D3 discloses a method for decontaminating water by adding hydrogen peroxide and irradiating with UV-light (claim 1). Prior to the addition of hydrogen peroxide the water is treated in a coalescing separator (figure 8; column 6, lines 45-60). D3 destroys the novelty of the subject-matter of claims 1, 3, 4 and 7 of the present application.

2d. D4 discloses in examples 1 and 2 the treatment of coloured water with hydrogen peroxide and UV-irradiation (column 4, lines 24-34) and anticipates the novelty of the subject-matter of claims 1, 3, 4 and 5 of the present application.

3. The subject-matter of claims 1-10 does not fulfill the requirements of Article 33(3) PCT (Inventive step).

The only difference of the subject-matter of claims 8-10 of the present application with the prior art is that hydrogen peroxide is added until a phase separation occurs and the water phase is then removed from the organic phase.

The alleged problem to be solved is to eliminate TOC from the solution in an effective way.

It seems that said problem is not solved over the whole range claimed since a phase separation is not obtained for any water containing a contaminant but requires a certain amount of TOC and certain types of contaminants. Furthermore the addition of hydrogen peroxide only will not be sufficient to initiate the phase separation, but irradiation seems also essential during the same period. Therefore it cannot be seen what problem is solved that is not solved in the prior art.

In addition phase separation is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to separate the organic contaminants from the water.

Re Item VII

Certain defects in the international application

4. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in D1-D4 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Certain observations on the international application

5. The subject-matter of claim 1 is not clear (Article 6 PCT), since it is defined by the result to be achieved 'until said treatment is achieved' and the expression 'sufficient' is vague and not well-defined. It is not clear after which degree of removal of the contaminants the treatment can be considered as being achieved.